DOCUMENT RESUME

ED 216 340 CS 006 691

AUTHOR Cavett, Dorcas C.
TITLE Use Ratio for Computing Informal Reading Tests!
PUB DATE Mar 82
NOTE 6p.; Paper presented at the Annual Meeting of the Nebraska State Council of the International Reading Association (11th, Lincoln, NE, March 26-27, 1982).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cloze Procedure; *Computation; Elementary Education; Informal Assessment; *Informal Reading Inventories; Mathematical Concepts; *Ratios (Mathematics); Reading Ability; *Reading Diagnosis; *Scoring

ABSTRACT

Noting that ratios can be used to great advantage in scoring informal reading tests, such as the cloze procedure and the informal reading inventory, this paper explains the procedures for calculating cross-ratios and percentages when computing scores for informal reading assessments. Examples are provided for using ratios to determine scores for Powell's Scale for Word Recognition and Comprehension, Bett's Scale for Word Recognition and Comprehension, and cloze testing. (RL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED216340

USE RATIO FOR COMPUTING INFORMAL READING TESTS!

Dorcas C. Cavett

Ratios can be used to great advantage in computing informal reading tests. These tests are used to determine a student's reading level--the competence or independent level; the teaching or instructional level; or the level that should be avoided at all costs--the frustration level.

Informal reading tests include the informal reading inventory (IRI), an instrument for testing word recognition and comprehension; and cloze testing, supplying words that have been systematically deleted from a passage.

These tests are a practical way of placing children in appropriate material and identifying their strengths and weaknesses in reading.

Significant questions pertain to the percentage of errors made and the percentage of accuracy displayed in computing scores for these tests.

Since percent, of course, means 100, an application of ratio shows the entire percent story in clear fashion.

a. Case 1. What is 18% of 300? $\frac{18}{100} = \frac{n}{300}$ $n = 54$

- - - - - - - - - - -

b. Case 2. 54 is what percent of 300? $\frac{n}{100} = \frac{54}{300}$ $n = 18$

- - - - - - - - - - -

c. Case 3. 54 is 18% of how much? $\frac{18}{100} = \frac{54}{n}$ $n = 300$

Sometimes it is necessary to employ the cross-ratio or cross-products procedure in order to find "n".

"The product of the means (medians) 100 and 54 equals the product of the extremes (ends) 18 and n."

$$18 \times n = 100 \times 54$$

$$18n = 5400$$

$$n = 300$$

- - - - - - - - - - -

The complete ratio story: (2) $\frac{18}{100} = \frac{54}{300}$ (1) (3)

$$18 \times 300 = 100 \times 54$$

$$5400 = 5400$$

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Dorcas C. Cavett

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

CS006691

Powell's Scale for Word Recognition

	Independent Level	Instructional Level	Frustration Level
PP-2	94%+	93 - 87%	86% or less
3-5	96%+	95 - 92%	91% or less
6	97%+	96 - 94%	93% or less

Ex No. of words in passage
160

Total uncorrected errors
17

Percentage of errors

$\frac{n}{100} = \frac{17}{160}$

$160n = 1700$

$n = 10.6$ or 11%

Percentage of accuracy

100% - 11% = 89%

Interpretation: Since 89% is between 87 and 93% for PP-2, the student's word recognition for this passage is at the instructional level. However, if the passage was for gr. 3-5 or 6 the student's word recognition score is at the frustration level.

Powell's Scale for Comprehension

	Independent Level	Instructional Level	Frustration Level
PP-2	81% + accurate	80-55% accurate	54% or fewer correct
3-5	86% + accurate	85-60% accurate	59% or fewer correct
6	91% + accurate	90-65% accurate	64% or fewer correct

Ex. No. of comprehension questions
7

Total errors
2

Percentage of errors

$\frac{n}{100} = \frac{2}{7}$

$7 \times n = 2 \times 100$

$7n = 200$

$n = 28.5$ or 29

Percentage of accuracy
100% - 29% = 71%

Interpretation: Since 71% is within the instructional level guidelines, the student's comprehension score is at this level for all the grades.

INFORMAL READING INVENTORY
(IRI)

1. The student reads 20-25 words orally from a word list two levels below his/her current grade level.

2. When the student has no errors on the word list, he/she then reads a passage orally at that same level.

3. The teacher records any errors or miscues that were made:

   Some examples:

   ^ insertation
   O omission
   ~~ repetition
   ← reversal
   — substitution
   x nonrecognition

Bett's Scale for Word Recognition

Independent Level	Instructional Level	Frustration Level
95% accuracy	90-94% accuracy	85% or less accuracy
(one-five miscues per 100 words or 0-5 oral reading errors)	(ten miscues per 100 words or 6-10 oral reading errors)	(fifteen or more miscues per 100 wrods or 15 oral reading errors)

89 93 87 86

Ex. No. of words in passage
125

Total uncorrected errors
9

Percentage of errors

$\frac{n}{100} = \frac{9}{125}$

$125 \times n = 9 \times 100$

$125n = 900$

$n = 7.2\%$

Percentage of accuracy

100% - 7.2% = 93%

Interpretation: Since 93% is between 90 and 94%, the student's word recognition for this passage is at the instructional level.

4. Now the student reads a selection silently.

5. The teacher asks 5-7 factual, inferential, and evaluative questions as well as the meaning of certain words pertaining to the selection. This is done to determine the level at which the material was understood, or comprehended.

Bett's Scale for Comprehension

Independent Level	Instructional Level	Frustration Level
90%+ accurate	89-75%+ accurate	50% or fewer corrent
4 questions = 0 errors	1 error	2+ errors

Ex No. of comprehension questions — 6

Total errors — 1

Percentage of errors

$\frac{n}{100} = \frac{1}{6}$

$6 \times n = 1 \times 100$

$6n = 100$

$n = 16\frac{2}{3}$ or 17%

Percentage of accuracy

100% - 17% - 83%

Interpretation: Since 83% is between 75 and 89%, this student needs to be taught comprehension strategies at the instruction level.

6. If advisable, the child listens to material read to him by the teacher. The potential or listening capacity is 75% comprehension for instructional level purposes. Pupils can understand when material is read aloud to them.

*There is always room for teacher judgement in the analysis of students' performances.

CLOZE TESTING

Cloze testing is based on the closure principle which states that whatever is unfinished is to be finished. It is a recall procedure.

For the primary grades:

1. Use a 100 word passage from unfamiliar, specific grade level material.
2. Delete every eighth or tenth word.
3. The student is to supply the word that has been deleted.

Independent Level	Instructional Level	Frustration Level
61% + closures to be completed correctly	60% -41% closures to be completed correctly	40% or fewer closures are completed correctly

Ex. Every eighth word deleted in a 100 word passage would equal 12.5 or 13 closures.

$\frac{61}{100} = \frac{n}{13}$	$\frac{41}{100} = \frac{n}{13}$	$\frac{40}{100} = \frac{n}{13}$
$100 \times n = 13 \times 61$	$100 \times n = 13 \times 41$	$100 \times n = 13 \times 40$
$100n = 793$	$100n = 533$	$100n = 520$
$n = 7.93$ or 8	$n = 5.33$	$n = 5.2$
Interpretation:		
child makes 8-13 correct closures	child makes 5-7 correct closures	child makes 0-4 or 5 correct closures

---

For the intermediate grades:

1. Use a 250 word passage from unfamiliar, specific grade level material.
2. Delete every fifth word.
3. The student is to supply the word that has been deleted.

Independent Level	Instructional Level	Frustration Level
61% + closures to be completed correctly	60-41% closures to be completed correctly	40% or fewer closures to be completed correctly

Ex. Every fifth word deleted in a 250 word passage would equal 50 closures.

$\frac{61}{100} = \frac{n}{50}$	$\frac{41}{100} = \frac{n}{50}$	$\frac{40}{100} = \frac{n}{50}$
$100 \times n = 50 \times 61$	$100 \times n = 50 \times 41$	$100 \times n = 50 \times 40$
$100n = 3050$	$100n = 2050$	$100n = 2000$
$n = 30.5$ or 31	$n = 20.5$ or 21	$n = 20$
Interpretation:		
child makes 31-50 correct closures	child makes 21-30 correct closures	child makes 0-20 correct closures